EFFECT OF EXPERIMENTAL GRANULOMA ON THE URINARY EXCRETION OF METHYLATED PURINES IN RAT

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An increased urinary excretion of methylated purines has been observed in various neoplastic conditions (Mandel, L. R. et al.: Nature 209, 586, 1966). We have studied the analogous effect of experimental granuloma in the rat.

Six viscose-cellulose sponges were implanted on the backs of albino rats (Viljanto, J.: Acta chir. scand. Suppl. 333, 1964). Rats were injected intraperitoneally with 25 or 50 μCi (methyl-^{3}H)-methionine 4 days before and 4, 7, and 11 days after the implantation. The urine was collected daily during the next 2 days after the injections. Urinary purines were isolated as described by Weissmann et al. (J. biol. Chem. 224, 407, 1957), fractionated on Dowex-50 columns and identified by two-dimensional paper chromatography.

On the first day after the injection no statistically significant changes were observed in the total radioactivity of methylated urinary purines on the 4th, 7th, and 11th day after the implantation (—2 %, +20 %, and +45 %). However, in the specific activities the increase was more marked. On the second post-injection day the total activity was significantly higher on the 5th, 8th, and 12th day after the implantation (+38 %, +165 %, and +315 %, $P < 0.05$, $n = 8$).

The granulomas had no clear effect on the distribution of the radioactivity among the individual methylated purines (combined first- and second-day samples). The specific radioactivity was highest in 1-methylguanine, but also 7-methylguanine and 1-methylhypoxanthine were heavily labelled.